



# ABSOLUTE VERMI-FILTER™ TECHNOLOGY FOR SEWAGE TREATMENT



# About Company – **Absolute Water Pvt. Ltd.**

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<b>About the Company</b>	<i>Absolute Water Pvt. Ltd.</i> , an ISO 9001:2015 QMS, MSME certified company, registered under Delhi companies act. AWPL is a leading manufacturer/supplier and Technology Provider of 100% Green Solutions for total Water/Waste water treatment and solid waste management.
<b>Incorporation Status</b>	Incorporated in January 2016 with office at M-58, 2 <sup>nd</sup> Floor, Greater Kailash - 2 M Block Market – New Delhi.
<b>Major Areas of Operation</b>	Construction, Design, Engineering, Supply E/C of WTP/STP/ETP/CETP/ Solid Waste Management including their Operation and Maintenance also.

# THE SOLUTION

# ABSOLUTE WATER

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INDIA'S FIRST EVER **100% ORGANIC** WATER  
RECOVERY SYSTEM THAT CONVERTS SEWAGE TO  
THE LEVEL OF DRINKING WATER (AS PER WHO PARAMETERS)

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# Can we do this better in India where WE CAN convert 62 billion liters of sewage into clean water every single day?

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## AWPL

- 100% organic water recovery
- No chemicals
- De-centralized systems
- Operated by unskilled labour
- Simple, effective, affordable

## REST OF THE WORLD

- Some countries like Singapore, South Africa, USA are treating sewage into drinking water for mass use via centralized systems
- Expensive technology like desalination which to the end user becomes a very costly deal due to high costs
- Most use chlorine dosing for cheaper outcomes

# What makes us “GREEN” AWPL VERMI-FILTER TECHNOLOGY

- The Process pioneered by Absolute Water is totally different from the conventional processes in existence at present.
- It is a totally Green process that does not use any Aeration (power), or Chemicals, and most importantly, produces NO Sludge.
- The process is based on a mix of Vermi-cast and Micro-Organisms that naturally degrade all the pollutants in the raw sewage, converting some into nutrients.





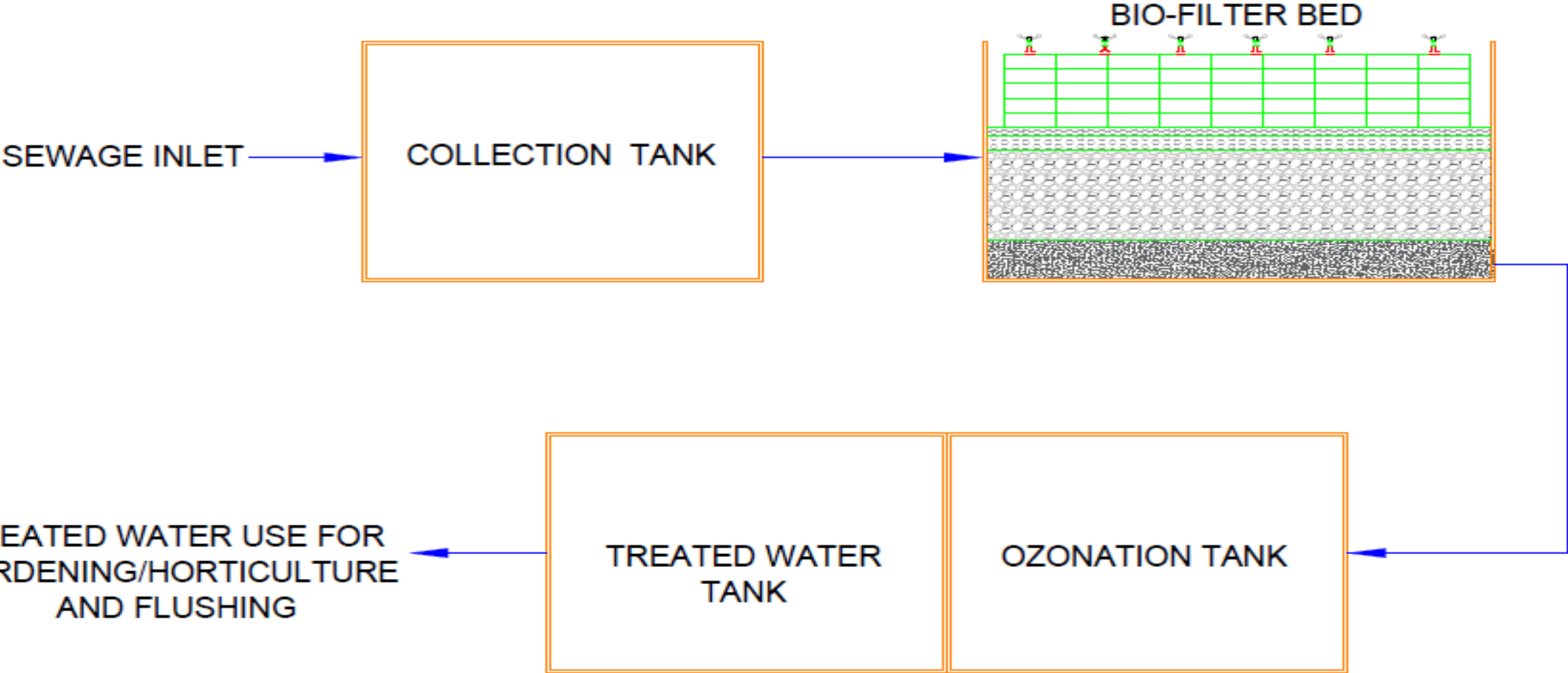
# What makes us “GREEN”

## AWPL VERMI-FILTER TECHNOLOGY

- This is a continuous and circular process, therefore the treated sewage keeps flowing through an inclined drain at the floor of the bio-filter into the treated water tank which can be used for further treatment or irrigation / horticulture etc.
- It solves two of the biggest issues of a conventional STP
  - Sludge management : Due to no sludge formation, it eliminates the problem of sludge dewatering ,handling and disposal
  - Power requirement: has a very low requirement and can also be catered via solar panels



# PROCESS FLOW FOR BIOFILTER BASED GREEN SEWAGE TREATMENT



# WATER QUALITY

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## INLET WATER PARAMETERS (STANDARD SEWAGE)

Sl. No	PARAMETERS	UNITS	VALUES
1.	pH	s.u.	6.5-6.7
2.	TSS	mg/l	Up to 400
3.	BOD	mg/l	Up to 300
4.	COD	mg/l	Up to 500
5.	Faecal Coliforms	MPN/per 100ml	10 <sup>6</sup>

## OUTLET WATER PARAMETERS

Sl. No	PARAMETERS	UNITS	VALUES
1.	pH	s.u.	6.5-7.0
2.	TSS	mg/l	Up to 20
3.	BOD	mg/l	Up to 10
4.	COD	mg/l	Up to 50
5.	Faecal Coliforms	MPN/100ml	230 MPN/100ml



# WHAT DO WE DO BETTER

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- **LEAST USE OF POWER** : 2.0 kW/h 100 KLD: just for running the pups
- **100% GREEN**: therefore no use of chemical
- **NON RO** : therefore 100% conversion
- **LOW CIVIL COST**: NO Tanks/ Aeration/ Sludge separation, etc
- **NO NOISE** ( since no aeration device involved)
- **CUSTOMISE DESIGN** :Civil and Modular based designs based on space constraints
- **MEMBRANE**: For drinking water, 85% conversion, 15% reject is high quality liquid fertilizer, removes BACTERIA, VIRUSES, PATHOGENS
- **SOLAR ENERGY USE**: Can work 24 X 7, therefore power supply not a constraint while being environment friendly
- **HIGH RETURN ON INVESTMENT**: 2-5 years
- **Lowest O&M Expenses**
- **Treated water for drinking** : 1.8 paise/liter
- **Treated water from 1<sup>st</sup> stage(bio filter)**: 0.6 paise/liter
- **Organic media replacement is humus, a bio compost** ( 6-8 monthly) that is currently being sold Rs/25/kg

# IMPACT

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## TREATED WATER HAS THREE LEVELS OF FILTRATION DEPENDING ON FINAL USAGE

**Level 1:** Agriculture/ horticulture/ground water  
rejuvenation/water body replenishment like rivers and ponds

**Level 2:** With advance treatment which is also naturally done :  
Toilet flushing, cooling tower recycling , maintenance via  
washing, laundry .

**Level 3:** With special customized membrane converting it into  
Drinking water as per **WHO** standards

### Areas of USE currently

Residential Associations ,Institutes ,Hotels

## POTENTIAL USE AND IMPACT FOR TRACTION

**Construction :** Mobile skid mounted units. Saving ground  
water or buying of water in tanks . Revenue model.

**Residential usage :** Modular unit, least footprint 60% water  
usage substituted for non human consumption like toilet  
flushing, bathing, laundry, washing of cars/ inside homes,  
gardening, etc

**Drought regions:** Skid mounted modular units traveling to  
drought affected areas, where contaminated/heavily polluted  
water bodies and dispense drinking water level of treated  
water .

**Agriculture:** Decentralized units. Substitute for ground water  
which is currently severely depleting and leading to financially  
impacting the farmer, sometimes causing to farmer suicides.

## And we also KEEP THE COVID VIRUS AT BAY

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Because we deploy Ozonation as an advanced disinfection treatment in our plants, it has been proven worldwide to kill/remove virus like SARS. It has a similar genetic structure to COVID-19 pandemic virus, so it surely fights against COVID-19 virus as well.

We also organize AI or online monitoring systems for treated water quality, so that the operator is exposed to the bare minimum and with all security and safety parameters in gear.



## Variant– 1

### Civil Unit



❑ CAPACITY : 50 KLD – 2 MLD

❑ The footprint of our bio-filter STP is very small in comparison with other available green technology.





## Variant – 2 Modular Unit

- ❑ Meets space constraint issues.
- ❑ CAPACITY : 5 – 50 KLD
- ❑ Can be used via solar energy.
- ❑ Suitable to cater small villages, housing colonies, localized treatment plants, etc.





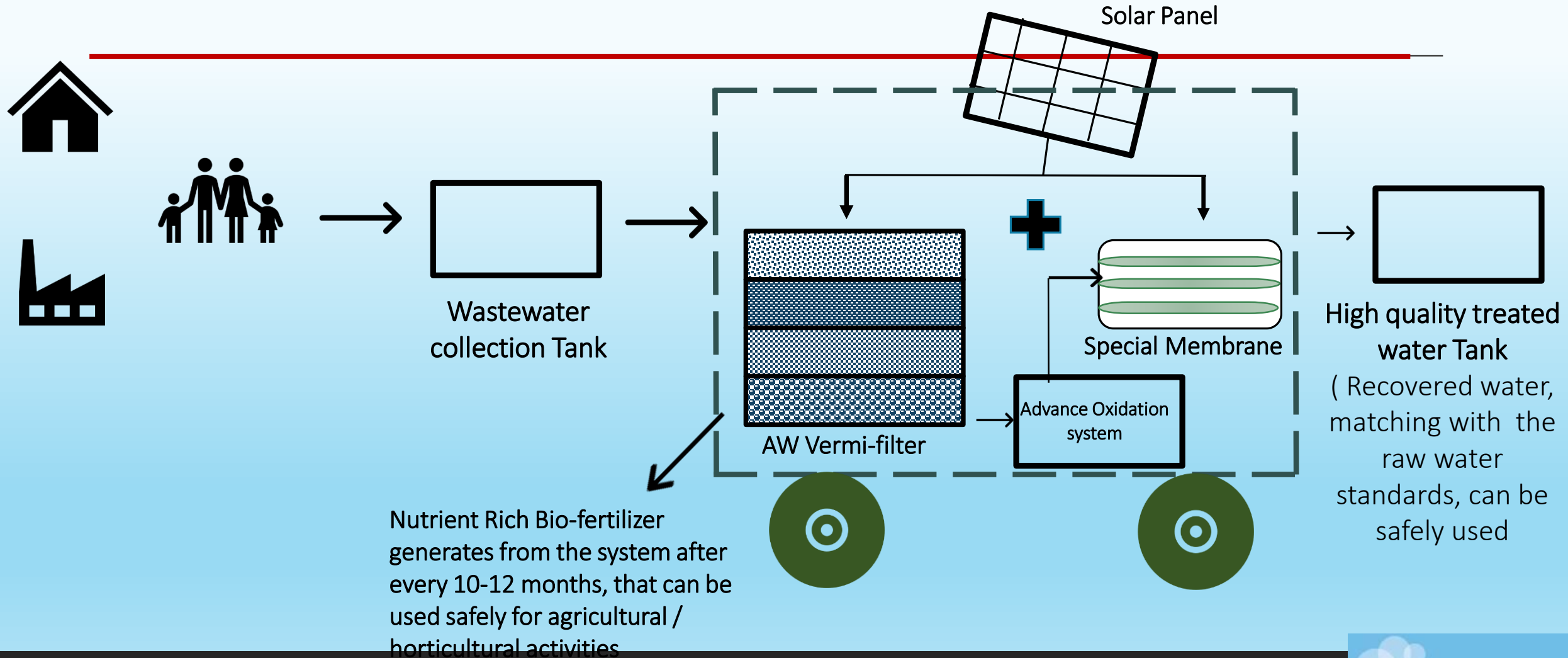
## Variant – 3

### India's First Ever Compact & Mobile STP

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- ❖ These units can be readily installed in permanent or semi permanent locations with minimal site preparations required.
- ❖ This option makes the units ideal for short term or mid term water supply systems for construction works, remote sites, missions, villages, colonies and their extended communities.
- ❖ These units does not require any civil work and treated water can be used with immediate effect also saves both valuable time and money.

# How does it work?



# PROOF OF TECHNOLOGY

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# HOW DID WE MANAGE 24++ PLANTS...

## THE BIGGEST CHALLENGE

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- To prove a new technology , which has a cultural and religious mind space
- Changing the mindset of consumers towards drinking water that has been treated from sewage
- Awareness of pipeline networks coming from one source of water , therefore no difference based on placement
- The only current source is sewage, being the closest thing to organic, and is 95% liquid.

# HOW DID WE MANAGE 24++ PLANTS

## THE CONVICTION

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We changed strategy, which was accepted and appreciated

- Substitute 70% of all non human consumption water with this treated water, like for toilet flushing, horticulture, agriculture, ground water rejuvenation, washing and maintenance of spaces, laundry,
  - Savings start within 2 years , you basically getting free water to use.
- Leaving the worry of intermittent supply of clean water or a breakdown because supply is 24x7.
  - Addresses the issue of the RO reject water from all RO water dispensers as it gets recycled
  - Sewage is treated at source , thereby the environmental impact being nullified on all counts.



# WHAT DID THEY GAIN

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THEIR SIGNIFICANT CONTRIBUTION ENVIRONMENTALLY AND ECONOMICALLY

BEING SELF SUSTAINABLE

BEING RESPONSIBLE FOR THEIR WATER CONSUMPTION

BEING STRESS FREE

BEING ABLE TO SAVE MONEY FOR THE BIGGER MOMENTS OF THEIR LIVES

Certificate of Parameters achieved  
and successful commissioning and  
working from:

CPCB

DPCB

PPCB

IIT, KANPUR

DJB

GNDEC

DTU

NGT

NMCG

DDA

PUNJAB WATER AND SEWRAGE BOARD

# PROOF OF QUALITY AND ENDORSEMENT

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- We do annual testing for all are installed plants , against all the stringent parameters as ordained by the central and state pollution board.
- We encourage the clients to do their own testing and by their own certified agencies of choice , in order to satisfy their doubts if any , AS THAT IS THE BELIEF IN OUR TECHNOLOGY
- We were incubated by IIT, Kanpur to test the validity and prove worthiness of the technology for which several visits and stringent tests were undertaken by the institute, and were eventually deemed as an effective organic sewage treatment technology.

*VIDEO LINK TO OUR 1MLD BIO- STP AT DELHI TECHNOLOGICAL UNIVERSITY*

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*<https://www.youtube.com/watch?v=5fKWWVp122w&t=12s>*

# HOW CAN WE SCALE AND WHAT IS OUR PROPOSAL

- **INDUSTRY-** ZLD concept can be introduced for 100% usage of treated water and zero discharge of industrial effluent into Sahibabad drain, especially food processing, steel, dairy and the textile industry

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- **RESIDENTIAL-** Modular Bio-STPs can be introduced in a cluster of societies such as RWA, for decentralise treatment , where treated water can be reused for horticulture, toilet flushing/car washing.
- **GREEN AREA** – Our mobile units can treat water on site and dispense treated water for hydration. Being mobile in nature, one unit can easily hydrate 4 to 5 zones in one day
- **CONSTRUCTION USE** - 100% reuse of treated water from Sahibabad drain for all construction uses, thereby eradicating use of ground water or buying of water for the same

# Conclusion “The New Water Source”

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Water is one of the world’s most valuable resources, yet it is under constant threat due to climate change and resulting in drought, explosive population growth, and water pollution.

One of the most promising efforts to stem the global water crisis is industrial and municipal water reclamation and reuse.

Water reuse allows communities to become less dependent on groundwater and surface water sources and can decrease the diversion of water from sensitive ecosystems.

The Mission for **ABSOLUTE WATER** is to always be on the forefront to fight with the global water crisis by managing our most valuable water resources. We believe that this “**new water**” source may also be used to replenish overdrawn water sources and rejuvenate or re-establish those previously destroyed.

**We are the green alternative to all kinds polluted water .**





# ABSOLUTE VERMI-FILTER

*EVERY DROP COUNTS*

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